

λ	λ^2	λ^3	λ^4	λ^5	λ^6	λ^7	λ^8	λ^9	λ^{10}	λ^{11}	λ^{12}	λ^{13}	λ^{14}	λ^{15}	λ^{16}	λ^{17}	λ^{18}	λ^{19}	λ^{20}
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	4	8	16	32	64	128	256	512	1024	2048	4096	8192	16384	32768	65536	131072	262144	524288	1048576
3	9	27	81	243	729	2187	6561	19683	59049	177147	531441	1594323	4782969	14348907	43046721	129139161	387431481	1162294443	3486883329
4	16	64	256	1024	4096	16384	65536	262144	1048576	4194304	16777216	67108864	268435456	1073743872	4294967744	17180864000	68813926400	271735168000	1074292928000
5	25	125	625	3125	15625	78125	390625	1953125	9765625	48828125	244140625	1220703125	6103515625	30517578125	152587890625	762939453125	3814697265625	19073486328125	95367431640625
6	36	216	1296	7776	46656	279936	1679616	10077696	60466176	362793024	2176778176	13060669056	79564014720	477384088320	2864304529920	17185827179520	103114963077120	618689778462720	3712138670774400
7	49	343	2401	16807	117649	823543	5724253	39959729	279696103	1953572721	13675009049	95725063343	670075443401	4691528103807	32840696726649	229884877086543	1609194139605801	11264358977240607	78842512840684249
8	64	512	4096	32768	262144	2097152	16777216	134217728	1073743872	8589953280	68310026752	546480214016	4371841712128	34974733697024	279801869576192	2238414956609536	17907319652876288	143258557223010304	1146068457784082432
9	81	729	6561	59049	531441	4782969	43046721	387431481	3486883329	31394929185	282554362665	2542989263985	22886903375865	205982130382785	1853839172445065	16664552552005585	149590972968050265	1340318756712452365	12026868810412071249
10	100	1000	10000	100000	1000000	10000000	100000000	1000000000	10000000000	100000000000	1000000000000	10000000000000	100000000000000	1000000000000000	10000000000000000	100000000000000000	1000000000000000000	10000000000000000000	100000000000000000000

A modem's profile is made up of its Downstream and Upstream Ifindexes		
FEC factor is the type of FEC used for that profile		

Bandwidth/modulation tradeoffs

downstream		assume 64QAM and 6 MHz as reference		
		required S/N for 10^{-6}		
Modulation		27	21.5	13.5
		64 QAM	16 QAM	QPSK
Bandwidth				
Downstream	6000	0.0	5.5	13.5
	2000	4.8	10.3	18.3
	1000	7.8	13.3	21.3
Up Stream		assume 16 QAM and 2 MHz as reference		
		required S/N for 10^{-6}		
Modulation		21.5	13.5	
		16 QAM	QPSK	
Bandwidth				
	3200	0.0	8.0	
	1600	3.0	11.0	
	800	6.0	14.0	
	400	9.0	17.0	
	200	12.0	20.0	

Figure 2

[illegible]

A modem's profile is made up of its Downstream and Upstream Ifindexes		if 16QAM=4*symbol	
FEC factor is the type of FEC used for that profile			

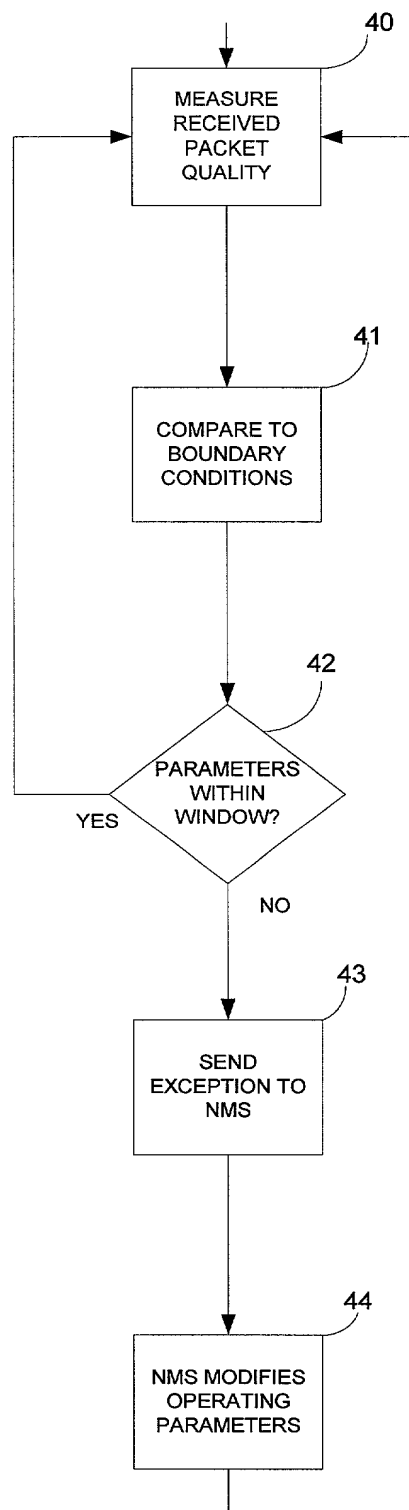


FIGURE 4

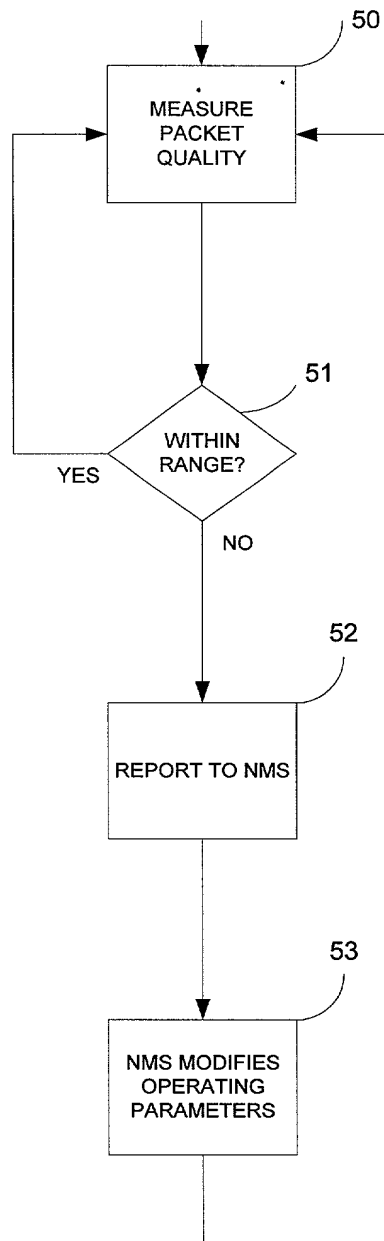


FIGURE 5